REMARKS

Claims 1, 11, 18, 24, 34, and 39 been amended. Claims 1-47 remain pending.

The Examiner rejected claims 1, 3-9, 18, 19, 22-25, 27-30, 34, 37-39, and 41-44 under 35 U.S.C. §103(a) as being unpatentable over Forslund (U.S. patent 5,659,630) in view of Panofski (U.S. patent 4,445,137). The Examiner has also rejected claim 10 under 35 U.S.C. §103(a) as being unpatentable over Forslund and Panofsky in view of Garza et al. (US 6,081,659). Claims 11-17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Forslund and Panofsky in view of Pial et al. (US 5,357,632). Additionally, claims 20 and 35 are rejected under under 35 U.S.C. §103(a) as being unpatentable over Forslund, Panofsky, and Kober (4,181,936). Claims 21, 26, 36, and 40 are rejected under under 35 U.S.C. §103(a) as being unpatentable over Forslund, Panofsky, and Schmuter (4,999,785). Claims 31-33 and 45-47 are rejected under under 35 U.S.C. §103(a) as being unpatentable over Forslund, Panofsky, and McCubbrey (4,484,394). The Examiner's rejections are respectfully traversed as follows.

Claim 1 is generally directed towards an "apparatus for analyzing a plurality of image portions of at least a region of a sample." Claim 1 also requires "a plurality of processors arranged to receive and analyze at least one of the image portions" where "the processors [are] arranged to operate in parallel and [are] configurable to implement one or more algorithms from a plurality of different algorithms for analyzing the image portions selected to determine whether the corresponding regions of the sample are defective." Claim 1 also requires "a data distribution system arranged to receive image data, select at least a first processor for receiving a first image portion of the image data and one or more first algorithms selected from the plurality of different algorithms, select at least a second processor for receiving a second image portion of the image data and one or more second algorithms selected from the plurality of different algorithms, output the first image portion to the first processor and the second image portion to the second selected processor, and configure the first processor with the one or more first algorithms and the second processor with the one or more selected algorithms." In other words, the present invention includes parallel processors which are configurable with different algorithms for processing images to determine whether the corresponding samples are defective and a mechanism for configuring such processor with one or more selected algorithms. These features provide great flexibility in the processing of images to determine whether corresponding samples are defective. For example, two different images may be differently processed "on the fly" in parallel by two different processors configured with two different algorithm sets.

Independent claim 11 is directed towards an "apparatus for inspecting a plurality of image portions of at least a region of a sample." Claim 11 requires "a plurality of distributors

arranged to receive the image portions" and "a plurality of processors that are arranged into a plurality of subgroups that are each coupled to an associated distributor." Claim 11 also require that "each processor [is] configurable to implement one or more algorithms selected from a plurality of different algorithms for analyzing the image portions to determine whether the corresponding regions of the sample are defective, each distributor [is] configurable to select one or more algorithms selected from the plurality of different algorithms, output selected image portions to its associated subgroup of processors, and configure its associated processor with its selected one or more algorithms, at least two of the processors [are] arranged to analyze at least two of the image portions in parallel."

Independent claim 18 is directed towards a method and requires "receiving data derived from the inspection in a multiprocessor system" and "the system comprising a master processor and a plurality of slave processors," where "each slave processor is configurable to implement one or more algorithms selected from a plurality of different algorithms to determine whether the corresponding portions of the sample are defective." Claim 18 also recites "selecting one or more algorithms from the plurality of different algorithms for each slave processor and configuring each slave processor with the selected one or more algorithms for such each slave processor" and then "processing the data groups with the slave processors based on the selected one or more algorithms for each slave processor." Claim 24 is also a method claim and requires "outputting each image portion to a selected processor, at least some of the image portions going to different processors" where "each being configurable to implement one or more algorithms selected from a plurality of different algorithms for analyzing the image portions to determine whether the corresponding portions of the sample are defective." Claim 24 also requires "selecting one or more algorithms from the different algorithms of each selected processor and configuring each selected processor with its selected one or more algorithms." Claim 24 also requires "analyzing each image portion for defects within the selected processor based on the selected one or more algorithms for such selected processor." Claims 34 and 39 are directed towards computer readable medium and have limitations similar to method claims 18 and 24, respectively.

In the Final Office Action of 8 May 2003, the Examiner admits that the primary reference Forslund fails to disclose a distribution system for configuring a first and second processor with one or more algorithms selected from a plurality of different algorithms and using the selected algorithms for analyzing the image portions. See Page 3, 2nd Paragraph. Although it may be argued that the secondary reference Panofsky cited by the Examiner teaches such a feature, Panofsky fails to teach or suggest a mechanism for selecting one or more algorithms from a plurality of different algorithms for analyzing image portions to determine whether the corresponding portions of the sample are defective, in the manner claimed in the independent

claims. In other words, the algorithms are not selected for inspecting images from a sample to determine whether the sample is defective. Since the cited references fail to teach or suggest a mechanism for <u>selecting one or more algorithms from a plurality of different algorithms for analyzing image portions to determine whether the corresponding portions of the sample are defective</u>, in the manner claimed in the independent claims, it is respectfully submitted that the independent claims 1, 11, 18, 24, 34, and 39 are patentable over the cited art.

The Examiner's rejections of the dependent claims are also respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 2-10, 12-17, 19-23, 25-33, 35-38, and 40-47 each depend directly from independent claims 1, 11, 18, 24, 34, or 39 and, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claims 1, 11, 18, 24, 34, and 39. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

Mary Olynick
Reg. 42,963

P.O. Box 778
Berkeley, CA 94704-0778
(510) 843-6200

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